

Appl. No. 10/713,660
Amdt. Dated 9/12/06
Reply to Office action of 6/22/06

Remarks and Arguments

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The Rejection Under 35 U.S.C. §112, Second Paragraph

The Examiner has rejected Claims 1-28 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. In particular, the Examiner states that in Claim 1, the expressions of "derivative," "predetermined," "acid derivative," "substantially" and "the remainder" are vague and indefinite because the skilled artisan in the art would not understand clearly what is meant by each of them and the specification does not elaborate what is meant by these terms. The Examiner also states that in Claims 12, 16, 26 and 28, the expressions of "acid derivative," "derivative," and "substantially" are vague and indefinite for the same reasons as above. Claims 1, 17-21 and 26 have been amended. In view of the claim amendments, Applicants respectfully submit that this rejection has been overcome and that the claim terms now fully comply with §112.

The expression of "derivative" is used throughout the specification and claims in conjunction with "acid" and the expression of "acid derivative" is defined at page 6, line 18, as a dicarboxylic acid.

Support for the expression of "substantially" as used in Claim 1(b), line 24, and Claim 1(e), line 17, can be found on page 8, lines 17-22, and page 9, lines 12-21. One skilled in the art would understand "substantially" to mean that most of the solvent, partially oxidized disubstituted benzene, acid derivative product and unreacted disubstituted benzene are maintained as a liquid or solid-liquid slurry at the given reaction conditions.

Support for the expression of "the remainder" can be found on page 7, line 23 – page 8, line 7. One skilled in the art would understand that the amount of disubstituted benzene, catalyst components, solvent and bromine that is not added in step (a), *i.e.*, the remainder, is added in step (d).

Accordingly, Applicants respectfully submit that the specification and claims fully comply with §112.

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The Examiner also rejected Claims 1 and 2 under 35 U.S.C. §112, second paragraph, because the expressions of "comprises" and "comprising" are vague and indefinite and do not exclude the presence of other materials not recited in the claims. Applicants have amended Claim 2 and believe that it is now in conformance with §112. Applicants, however, are unclear as to the reason for the rejection of Claim 1 because the word "comprising" in patent law is intended to be an open-ended word. Indeed, the word "comprising" is synonymous with "including" Ex parte Davis et al., 80 USPQ 448 (POBA 1948), In re Bertsch, 56 USPQ 379 (CCPA 1942), in that they incorporate additional steps of procedures and do not exclude materials or processes not recited in the claim. Gould v. Mossinghoff Comm. Pats., 215 USPQ 310 (DDC 1982). Moreover, the mere possibility that a composition may "comprise" materials other than the recited essential ingredients which could defeat the applicant's intention does not necessarily render the claim indefinite or too broad. Ex parte Henderson, 176 USPQ 142 (POBA 1972).

Therefore, for the foregoing reasons, Applicants respectfully submit that the claims clearly define the invention and meet the requirements of §112.

The Rejection Under 35 U.S.C. §103(a)

The Examiner has rejected Claims 1-28 under 35 U.S.C. §103(a) as being unpatentable over Baldwin et al. (U.S. Patent No. 3,092,658) in view of Lewis et al. (U.S. Patent No. 3,406,196). Applicants respectfully traverse the Examiner's rejection.

Both Baldwin et al. and Lewis et al. disclose a process which calls for introducing the total amount of the feed mixture into a first oxidation stage. Unlike Applicants' invention, Baldwin et al. and Lewis et al. neither teach nor suggest a process whereby a portion or all of the total amount of the feed mixture is introduced into a second oxidation stage. Furthermore, in contrast to the present invention, Baldwin et al. and Lewis et al. do not disclose a process which introduces at least a portion of the condensed solvent from the first oxidation stage into the second oxidation stage.

Accordingly, because neither Baldwin et al. nor Lewis et al. teach introducing at least a portion of the feed mixture and the condensed solvent into a second oxidation stage, the references cannot be combined to obtain Applicants' invention.

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Also, by introducing a portion of the feed mixture into the second oxidation stage, Applicants can control the vent oxygen such that acceptable terephthalic acid product color is obtained. In addition, by sending a portion of the condensed solvent to the second oxidation stage, Applicants' process can run at a high enough catalyst concentration in the first oxidation stage to achieve the desired vent oxygen levels. Neither prior art reference discloses a process which achieves acceptable terephthalic acid product color with high oxygen utilization.


Conclusion

The Applicants respectfully request that the Examiner consider the foregoing arguments and amendments. Applicants submit that the subject claims are now in condition for allowance and respectfully request allowance of these claims.

September 12, 2006

Respectfully submitted,

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